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Schmidt, M ; Kravic, N ; Ehlert, Ulrike

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Adjustment to trauma exposure in refugee, displaced, and non-displaced Bosnian women

Martina Schmidt · Nera Kravic · Ulrike Ehlert

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Abstract The war in Bosnia resulted in the displacement of millions of civilians, most of them women. Ten years after the civil war, many of them are still living as refugees in their country of origin or abroad. Research on different refugee groups has continuously reported persistent levels of posttraumatic stress disorder (PTSD) and other mental-health problems in this population. The present study compared PTSD and self-concept in Bosnian refugee women ($n=29$) with women who were internally displaced (IDP; $n=26$) and non-displaced women ($n=32$). Data were collected using the Bosnian Trauma Questionnaire and four scales assessing self-esteem, perceived incompetence, externality of control attribution, and persistence. IDPs scored significantly higher on PTSD symptoms, externality of control attribution and perceived incompetence, and lower on self-esteem than both refugee and non-displaced women. The level of education most strongly predicted PTSD symptom severity, followed by the type of displacement, and exposure to violence during the war. Associations of

self-concept with displacement and psychopathology were inconsistent, with type of displacement predicting control attributions but not other aspects of self-concept and PTSD symptoms being partly related to perceived incompetence and self-esteem. These results support previous findings stating that, in the long run, refugees show better mental health than IDPs, and that witnessing violence is a traumatic experience strongly linked to the development of PTSD symptoms. Results further indicate that education plays an important role in the development of PTSD symptoms. Associations of control attributions and type of displacement were found; these results have not been previously documented in literature.

Keywords Posttraumatic stress · Self-concept · Bosnia · Women · War

Introduction

In recent history, civilian populations have often become targets of political violence. Many of those surviving are forced into flight to different parts of the country or abroad (Ghobarah et al. 2003). Considering the current magnitude of global refugee movements, a thorough and research-based investigation of the consequences of forced displacement on mental health is indispensable.

After the acute, life-threatening stress of the pre-flight period and after the flight itself, refugees experience an ongoing accumulation of stressors and pressures of adjustment during exile (Martin 1994). High rates of PTSD have been found across different host countries and refugee groups (Favaro et al. 1999). Mental-health impairment in these samples seems to be more severe than in non-refugee and internally displaced persons (IDPs; Porter and Haslam

M. Schmidt
Department of Psychiatry,
Outpatient Clinic for victims of torture and war,
University Hospital Zurich,
Culmannstrasse 8,
CH-8091 Zurich, Switzerland

N. Kravic
Vive Zene,
Tuzla, Bosnia and Herzegovina

U. Ehlert (✉)
Department of Psychology,
Clinical Psychology and Psychotherapy,
University of Zurich,
Binzmuehlestr. 14/16,
CH-8050 Zurich, Switzerland
e-mail: u.ehlert@psychologie.uzh.ch

2001). Persistent clinical levels of trauma-related symptoms were found in studies conducted several years after resettlement in a refugee camp or host country (Miller et al. 2002; Momartin et al. 2003). The finding that two decades after the resettlement of Cambodian refugees in the United States, 62% were diagnosed as suffering from PTSD (Marshall et al. 2005) is very prominent in this respect.

During the civil war in Bosnia-Herzegovina, about half of the region's inhabitants, most of them women, were driven from their homes (United Nations High Commissioner for Refugees 1995). Although many took refuge in other countries, the majority were displaced within the former Yugoslav republic. High rates of posttraumatic stress have consistently been reported for refugees as well as displaced Bosnian civilians (Bell 2000; Weine et al. 1998). In their 3-year follow-up study, Mollica and others (2001) found that Bosnian refugees living in Croatia still showed high levels of psychiatric disorders and disability.

Hunt and Gakenyi (2005) conducted a questionnaire-based study comparing Bosnian refugees living in the UK and IDPs. They found that refugees scored significantly higher on traumatic symptoms, which indicates more serious longer-term psychological problems in people who are forced to leave their country during war. Interestingly, a meta-analysis of mental health among a world-wide study sample of refugees and IDPs yielded contrary implications (Porter and Haslam 2005). The authors found that the mental health of refugees relative to non-refugees improved over time. Moreover, refugees had relatively positive mental-health outcomes compared to displaced and repatriated refugees.

Cognitive orientations in relation to PTSD symptoms have been examined in several studies. A recently conducted follow-up study on the coexistence of posttraumatic growth and PTSD symptoms in Kosovar refugees found that, although hope was associated with posttraumatic growth, no cognitive factors were able to predict present PTSD symptoms (Ai et al. 2007). In their review, Johnson and Thompson (2007) identified religious beliefs as one possible protective factor against PTSD following war trauma and torture.

A few studies have been conducted on different aspects of self-concept in relation to PTSD, most of them on children or adolescent samples (e.g., Begovac et al. 2004). The main findings seem to be on the relation between trauma and poor general self-concept, the latter concerning lack of development and lack of coherent and valued feeling of self and the like (Beiser et al. 1995; Klimidis et al. 1994). Other studies, however, did not find these correlations between trauma and self-esteem (Giaconia et al. 1995). Two studies have examined self-concept and PTSD in survivors of war: Basoglu et al. (2005) examined different cognitive effects of war trauma in a sample of war survivors in former Yugoslavia. Fear and loss of control over one's life were most strongly associated with PTSD

symptoms. In the second study, the authors examined attribution style in relationship to child-abuse history and PTSD symptom severity in Vietnam veterans (McKeever et al. 2006). They found that learned helplessness and internal locus of control significantly contributed to the explanation of variance in PTSD symptoms. To our knowledge, no study has so far assessed aspects of self-concept in refugee women.

Ten years after the demise of the former Yugoslavia, we aimed at comparing posttraumatic stress and self-concept among refugee women and women displaced within their nation of origin. Based on the assumption that—while both IDPs and refugees have been driven from their homes—IDPs are exposed to a post-war society with continuing economical and political stressors, whereas refugees in countries without a recent history of war find themselves in an environment that facilitates psychological recovery, we predicted IDPs to show more PTSD symptomatology and lower levels of perceived control, competence, persistence, and self-esteem than refugee women. We expected worse outcomes in IDPs and refugee women compared to the control group. Furthermore, we expected PTSD symptom severity and the amount of traumatic experiences to be adversely related to levels of the different aspects of self-concept.

Materials and methods

Subjects

The sample of IDPs included 28 women from four refugee settlements in northern Bosnia, recruited by the Bosnian nongovernmental organization *Vive Zene*. Founded in 1993 after the outbreak of the civil war, the organization offers psychosocial and legal support primarily to displaced women and their children. Unable to return home due to the destruction of their houses, the danger of land mines and poverty, these women are housed in overcrowded rooms under unsanitary conditions. They were approached in the settlements and asked to participate by staff of *Vive Zene*, rather than being enlisted due to proactive help seeking. Ages ranged from 17 to 57 years.

Refugee women were recruited by contacting key informants such as the “Service for Foreigners, Basel-Landschaft” and study participants, who informed potential participants by word of mouth. The refugee sample comprised 29 Bosnian women who fled their country after the outbreak of the war and took refuge in Switzerland or the Principality of Liechtenstein, where they are currently residing in their own private households. Ages ranged from 20 to 69 years.

The non-displaced sample consisted of 32 women between the ages of 20 and 67 years from an industrial town in northern Bosnia. The town had been under a 10-month siege in 1993, and its inhabitants were not spared the atrocities of war.

However, all women of this sample had been able to remain in their homes throughout the war. As in the refugee sample, these women were contacted by key informants of different organizations and by study participants.

Data were collected between November 2003 and December 2004. For sociodemographic information, see Table 1. The number of subjects excluded from the study is not shown because only two participants were retroactively excluded due to incomplete data. The low exclusion rate owes to the fact that key informants and study participants knew about the inclusion criteria and contacted only women eligible for the study.

As the study was regionally confined and a certain sampling bias due to the recruitment method cannot be ruled out, an adequate representation of the relevant populations cannot be ensured.

Instruments and procedure

PTSD symptoms were measured using the Bosnian Trauma Questionnaire (Pavlovic 1998), a local instrument applied in the Department of Psychiatry in the Hospital of Tuzla and in studies on war veterans (Pavlovic and Sinanovic 2000a, b). The questionnaire initially asks participants to list their traumatic experiences. Twenty-one items assess the frequency of symptoms of reexperiencing, avoidance, hyperarousal, and social and occupational impairment for the previous month on a 6-point scale (0=never, 1=once, 2=2–3 times, 3=once a week, 4=2–4 times a week, 5=5–7 times a week). In its structure, the questionnaire is based on the DSM-IV diagnostic criteria and symptom clusters (American Psychiatric Association 1994). It does not, however, include all DSM-IV symptoms; the “inability to recall an important aspect of the trauma” and “exaggerated startle response” are not listed. This instrument was chosen for its local development and seemingly increasing application in research. In the meantime, however, even its authors use measures that are more commonly applied internationally and that benefit from better comparability of different studies.

Four scales were applied to measure aspects of self-concept. Each consists of 10 Likert-scaled items assessing

the extent of consent with the respective statements. All four scales were validated on Bosnian and Croatian student samples (Bezinovic 1988a; Bezinovic and Savcic 1987). For all scales, item values were summed, resulting in scores ranging from a minimum of 0 to a maximum of 40.

The Locus of Control Scale (Bezinovic 1990c; Rotter 1966) measures the degree of externality in control attribution, i.e., of a fatalistic orientation where solely destiny, luck, and chance determine one’s experiences (e.g., “In life, those people succeed who are predestined to do so.”). The smallest item-total correlation reported is 0.48 (Bezinovic and Savcic 1987).

The Scale of Persistence (Bezinovic 1990e) assesses the extent of endurance in problem solving (e.g. “Despite the difficulties that I might encounter, I don’t give up.”). The smallest item-total correlation reported is 0.32 (Bezinovic 1988a).

The Scale of Perceived Incompetence (Bezinovic 1990d) measures self-perception of personal mastery and expectations of favorable outcomes of one’s own activity (e.g., “At the beginning of a task I already assume that I will fail.”), which also constitutes Bandura’s (1977) concept of self-efficacy. High internal consistency of the scale (alphas between 0.83 and 0.90) and sufficient test-retest reliability ($r=0.70$) have been reported (Bezinovic 1990a; Puklek and Vidmar 2000). The smallest item-total correlation for the whole scale is 0.46 (Bezinovic 1988b).

For measures of self-esteem, a Croatian version of Rosenberg’s (1965) scale was applied (Bezinovic 1990b). Cronbach’s alpha for this scale has been reported at 0.72 (Lackovic-Grgin et al. 1996).

The difficulty concerning the concept of beliefs about the self is the confusion in current literature, because various concepts resembling each other, such as self-image, self-concept, self-esteem, and identity are mentioned (Begovac et al. 2004). There are a variety of instruments measuring aspects of this area, and there seems to be no mutual definition of these notions. For this study, four aspects of self-concept were chosen, similar to what had previously been assessed in connection with posttraumatic stress disorder (Begovac et al. 2004; McKeever et al. 2006; Ai et

Table 1 Sociodemographic variables among samples of displaced, refugee, and non-displaced Bosnian women

	Displaced ($n=26$)	Refugee ($n=29$)	Non-displaced ($n=32$)	χ^2 (df=2)	P value
Age in years	39.3±9.3	41.0±11.4	41.8±13.0		ns
Number of children	2.31±1.6	1.86±1.5	1.53±.9		ns
Unemployed	96.2%	51.7%	34.4%	23.4	0.000
Substandard income	54.2%	17.2%	12.5%	14.0	0.001
Education at elementary level or lower	69.2%	10.3%	12.5%	29.4	0.000
Widowed	61.5%	17.2%	21.9%	14.8	0.001

al. 2005). Regarding the choice of the scales, the same limitations as discussed for the trauma questionnaire are to be considered.

Identical questions were answered by all subjects. Questionnaires were completed singly or in small groups. In the few cases of illiteracy among the displaced sample, support was provided by a female psychologist and a female social worker of Vive Zene.

Data analyses

Since the lacking DSM-IV symptoms in the applied Trauma Questionnaire did not allow for a diagnosis of PTSD, subjects were categorized as posttraumatic symptom cases (PTS cases). This was defined according to DSM criteria, namely as having experienced the following symptoms at least once a week in the past month: criterion B (symptoms of reexperiencing) on at least one out of five items, criterion C (symptoms of avoidance) on at least three out of six items, criterion D (symptoms of hyperarousal) on at least two out of five items, and criterion F (distress and impairment) on at least one out of three items. Subjects of all three samples came from parts of Bosnia where the civil war was intense and were considered to have experienced wartime atrocities adequate to meet criterion A.

For PTSD symptom severity (PTS level), the sum of scores on criteria B, C, D and F was calculated.

Data analyses were conducted using SPSS version 11 for Mac OS X (2003). For differences in PTS cases and PTSD symptoms, chi-square and Kruskal-Wallis tests with post-hoc Mann-Whitney tests were performed. For differences in self-concept, one-way ANOVAs with post-hoc *t*-tests were used for calculations. Linear regressions were applied for associations of PTSD symptom severity, traumatic events, and self-concept. All analyses were two-tailed, with the level of significance set at $P < 0.05$. Odds ratios are reported with a 95% confidence interval. Unless indicated, all results shown are mean \pm standard error of mean (SEM).

Results

Samples did not differ significantly in age and number of children (see Table 1 for sociodemographic variables). IDPs reported significantly lower levels of education and financial income, a higher unemployment rate, and more widowhood than both refugee and non-displaced women. Reported traumatic events are listed in Table 2. The highest number of traumatic events was reported by IDPs (5.1 ± 2.1). Refugees reported more traumatic events than non-displaced women (3.3 ± 2.9 vs. 1.9 ± 1.2 , respectively). Reports of family members killed and imminent starvation were significantly more frequent in the displaced than in the refugee sample. No significant differences were found between displaced and refugee women regarding other traumatic events. Comparative calculations for the non-displaced sample were not conducted due to small subsamples in the majority of traumatic events.

Proportions of PTS cases are shown in Table 3. The proportion in the displaced sample exceeded both other samples significantly. No significant differences were found between the refugee and the non-displaced sample. All diagnostic criteria were met most frequently in the displaced sample (see Table 3). Significantly more intrusion, avoidance, hyperarousal, and social and occupational impairment were reported than in both other sample groups. Hyperarousal was more frequent in the refugee than in the non-displaced sample [χ^2 (1, $n=61$)=5.8, $P < 0.05$]; no significant differences emerged between refugees and non-displaced regarding the other criteria.

Mean sample scores for measures of self-concept are shown in Table 4. Samples did not differ significantly in the degree of persistence. Externality of control attribution and perceived incompetence were significantly higher in the displaced than both other samples. Samples differed significantly in self-esteem, with non-displaced attaining the highest scores, refugees significantly lower, and displaced lower than both groups at a mean of 23.5 ($F=4.9$, $P < 0.05$).

Table 2 Traumatic events reported among sample groups of displaced, refugee, and non-displaced Bosnian women

Traumatic event reported	Displaced ($n=26$)		Refugee ($n=29$)		Non-displaced ($n=32$)	
	Number	Percentage	Number	Percentage	Number	Percentage
Internment camp	2	7.6	6	20.7	0	0.0
Displacement	26	100.0	29	100.0	0	0.0
Separated from family members	9	34.6	9	31.0	1	3.1
Exposed to violence	6	23.1	5	17.2	2	6.3
Witnessed violence	18	69.2	13	49.8	2	6.3
Witnessed violence towards family members	7	26.9	6	20.7	1	3.1
Witnessed killing	13	50.0	11	37.9	6	18.8
Family member(s) killed	17	65.4	6	20.7	7	21.9
Imminent starvation	12	46.2	6	20.7	3	9.4

Table 3 Number and proportions of PTS cases and PTSD symptoms among sample groups of displaced, refugee, and non-displaced Bosnian women

	IDPs (<i>n</i> =26)		Refugee (<i>n</i> =29)		Non-displaced (<i>n</i> =32)		Chi-square ^a	<i>P</i> value
	Number	Percentage	Number	Percentage	Number	Percentage		
PTS cases	19	73.1	3	10.3	5	15.6	30.8	0.000
Intrusion	25	96.2	11	37.9	8	25.0	31.8	0.001
Avoidance	19	73.1	6	20.7	7	21.9	21.0	0.001
Hyperarousal	22	84.6	16	55.2	8	25.0	20.5	0.001
Impairment	19	76.0	6	20.7	6	20.0	23.4	0.001

^a Displaced sample compared to non-displaced and refugee samples

In a second set of analyses, we examined the relative contribution of different factors on long-term consequences for the total sample of women. The strongest predictor of PTSD symptom severity was the level of education, with women having no or very little education reporting higher levels of traumatic symptoms (see Table 5). Type of displacement was significantly related to symptom severity, as was exposure to violence, although to a lesser degree. No further war experiences were significantly associated with PTSD symptom severity, nor was the number of traumatic events experienced. Age and number of children were not significantly related to PTSD symptoms. An examination on the level of symptom criteria yielded the same contributing factors as above. Only for impairment symptoms (criterion F) was the number of children found to be an additional contributing factor ($\beta=0.46$; $P<0.01$).

When exclusively examining the influence of war experiences on PTSD symptomatology, the following events predicted symptoms: witnessing violence ($\beta=.24$; $P<0.05$), separation from husband ($\beta=.71$; $P<0.01$), the killing of family members ($\beta=.25$; $P<0.05$), and imminent starvation ($\beta=.27$; $P<0.01$). However, these predictions were lost when accounting for sociodemographic variables and type of displacement.

Predictors of self-concept differed among the assessed aspects (see Table 6). PTSD symptom severity contributed only to the level of perceived incompetence. Impairment caused by these symptoms (criterion F) was adversely related to self-esteem. Having witnessed violence towards one's husband yielded an adverse association with the externality of control attribution, however to a lesser extent

than type of displacement. No other war experiences were significantly related to self-concept. Type of displacement was not related to any other aspects of self-concept. For the level of persistence, no related factors were found.

Discussion

Results of this study are consistent with the findings of a recent meta-analysis in which refugees had relatively positive long-term mental-health outcomes compared to displaced civilians (Porter and Haslam 2005). The strong association of internal displacement and PTSD symptom severity even when controlling for other factors additionally supports these findings. They are however contradictory to previous findings in various host countries, where persisting clinical levels of PTSD were found in war refugees several years after resettlement (Weine et al. 1998; Porter and Haslam 2001; Marshall et al. 2005; Hunt and Gakenyi 2005). A possible reason for the contradictory findings is the number of reported traumatic events in refugees, which was higher in earlier studies than in the present one. However, no associations between the number of traumatic events and symptom severity were found in this study. The only traumatic event predicting symptom severity was the witnessing of violence, a finding consistent with previous research documenting a strong positive relationship between PTSD symptomatology and exposure to political violence (e.g., Mollica et al. 1998). The only factor more strongly associated with symptom severity than type of displacement was the level of education. This finding is

Table 4 Measures of self-concept among displaced, refugee, and non-displaced Bosnian female samples

	Displaced (<i>n</i> =26)	Refugee (<i>n</i> =29)	Non-displaced (<i>n</i> =32)	<i>F</i> ^a	<i>P</i> value
Locus of control	26.1±0.9	20.0±1.0	20.0±1.2	10.5	0.001
Persistence	29.3±1.1	28.6±1.5	29.7±0.9		ns
Perceived incompetence	25.5±1.9	14.1±1.9	12.7±1.4	15.8	0.001
Self-esteem	23.5±1.2	27.1±1.7	29.3±1.1	4.9	0.05

^a Displaced sample compared to non-displaced and refugee samples

Table 5 Hierarchical regression of war experiences and type of displacement on PTSD symptom severity

Predictors	Variable and equation statistics					
	B	SE B	β	Step R^2	R^2 change	P value
Model 1: sociodemographics				0.31	0.30	0.000
Education	-37.14	6.15	-0.55			0.000
Model 2: sociodemographics and type of displacement				0.43	0.42	0.000
Education	-21.17	6.76	-0.32			0.000
Internal displacement	28.19	6.67	0.43			0.002
Model 3: sociodemographics, type of displacement and war experiences				0.46	0.44	0.000
Education	-21.88	6.65	-0.33			0.001
Internal displacement	22.05	7.23	0.33			0.003
Witnessed violence	11.40	5.68	0.19			0.048

surprising, considering that in the National Comorbidity Survey (Kessler et al. 1995), education was not a significant predictor of PTSD. Breslau et al. (1991) did find an association between lower levels of education and chance of developing PTSD. However, the strong association found in the present study is unexpected and may be confounded by further unconsidered factors, possibly due to the self-report design.

The results regarding self-concept only partly support previous studies on the relation between trauma and poor general self-concept (Beiser et al. 1995; Klimidis et al. 1994). Overall, PTSD symptoms do not seem to be consistently related to self-concept. However, the degree of impairment caused by these symptoms was associated with poorer self-esteem and lower perceived competence. It is possible that a healthy self-concept can play a mediating role in the distress caused by PTSD symptoms. Associations of self-concept with type of displacement were limited as well, even though IDPs showed the poorest results in self-esteem, perceived incompetence, and control attribution. Of the four constructs examined, type of displacement predicted only the degree of external control attribution. These findings suggest that differences in self-concept can only partly be explained by PTSD symptomatology and

displacement type. Other pre- or post-migratory factors seem to play an important role in the development of these differences. However, the small sample sizes of this study do not allow for reliable conclusions on relationships among variables. It is clearly a limitation of the study that the above findings could not be validated on larger samples. Further significant limitations are caused by the applied self-report instruments. Firstly, the validity of self-report questionnaire data can be termed questionable. More importantly, information on the validity and reliability of the chosen scales was not sufficiently available due to a lack of studies on the psychometric properties of these questionnaires in the former Yugoslavia.

Furthermore, having reported fewer cases of death in the family and fewer cases of imminent starvation, the refugee sample differed from the displaced regarding two of the nine documented traumatic events. However, these experiences did not have any significant influence on the development of PTSD symptoms nor on differences in self-concept; rather, it seems to be exposure to violence that is etiologically linked to the development of PTSD symptoms. According to previous studies, the experience of loss is more likely to be associated with the development of depressive symptomatology (Miller et al. 2002). Finally,

Table 6 Linear regression of PTSD symptomatology, war experiences, and type of displacement on self-concept

Aspect of self-concept	Predictors	Variable and equation statistics					
		B	SE B	β	Step R^2	Adj. R^2	P value
Externality of control attribution					0.34	0.31	0.000
	Internal displacement	5.26	1.30	0.38			0.000
	Number of children	2.29	0.64	0.35			0.001
	Witnessed violence towards husband	-9.72	3.7	-0.24			0.011
Perceived incompetence					0.53	0.52	0.000
	Symptom severity	0.14	0.05	0.40			0.003
	PTSD impairment (criterion F)	0.85	0.31	0.37			0.007
Persistence							ns
Self-esteem					0.22	0.21	0.000
	PTSD impairment (criterion F)	-0.78	0.16	-0.47			0.000

it can be argued that several crucial pre- and post-displacement conditions such as acculturative stress and different living conditions, which could possibly shed more light on the cause of the differences in self-concept between these women, were not taken into consideration.

Conclusions

The aim of our study was to compare the mental health of women displaced inside their nation of origin with refugees resettled in a country with a much higher living standard. The results support implications that long-term psychopathology among war refugees does not result from war-related stressors alone, but reflects contextual factors that can be largely avoided by generous support on the part of governments and agencies. For the sake of future refugees of war, it might be worthwhile to evaluate asylum policies in consideration of resources needed to sustainably support the well-being of this population.

Future research is needed to identify salient variables in the prevention and reduction of war-induced psychopathology in refugees and to further investigate the role of education and self-concept on mental-health issues in refugee women. Comparing the mental health of newly resettled with repatriated refugees would further contribute to the elaboration of efficacious interventions regarding refugees of war.

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